

Abstract

The plasma spraying method is a coating method in which a material to be coated is sprayed onto a surface of a metallic substrate (2) in the form of a powder beam. The coating material is injected at a low process pressure, which is lower than 10,000 Pa, into a plasma defocusing the powder beam and is there partly or fully melted. In this connection, a plasma with sufficiently high specific enthalpy is produced so that a substantial portion, amounting to at least 5% by weight, of the coating material changes into the vapour phase and an anisotropically structured coating (1) is produced on the substrate. An anisotropic structured layer of the coating material is deposited on the substrate. In this coating, elongate particles (10), which form an anisotropic micro-structure, are aligned standing largely perpendicular to the substrate surface and low-material transitional zones (11, 12) bound the particles from one another.

(Fig. 1)